

In the Drawings

In FIG. 1, please add reference number 16, as shown in the accompanying drawing sheets.

In FIG. 2, please add reference numbers 190 and 192, as shown in the accompanying drawing sheets.

Attachments

Annotated drawing sheet

Replacement drawing sheet

REMARKS

The Examiner is thanked for the thorough examination of the present application, and the indication that claims 9-11 and 22-24 contain allowable subject matter. The Office Action, however, tentatively rejected all remaining claims. Responsive to the Office Action, Applicant has made certain amendments herein, and submits that the foregoing amendments, in view of the following remarks, place this application in condition for allowance.

Present Status of Application

New claims 33-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b). However, as these claims depend from claim 1, if claim 1 is found to be allowable, then these claims should be allowed as well.

Claims 1-3, 6, 14-16, 19 and 27 are rejected under 35 U.S.C. 102(b) as allegedly anticipated by Akram et al. (US 5,838,161). Claims 4-5, 7-8, 12-13, 17-18, 20-21 and 25-26 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Akram as applied to claims 1 and 15 above. In this submission, claims 1 and 15 are amended, claims 33-37 are withdrawn, and new claims 38-45 are added. Support for the amendments can be found, for example, at page 8, lines 5-7, and FIG 2 of the present application.

Objections to the drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show element 16 of Fig. 1; the first member of test structure and a second member of test structure. Accordingly, the objection should be withdrawn.

Accordingly, Applicant amends FIG 1 to add element 16. Applicant also amends FIG 2 to add first member 190 of test structure and a second member 192 of test structure.

Rejections Under 35 U.S.C. 102(b)

Claims 1-3, 6, 14-16, 19 and 27 stand rejected under 35 U.S.C. 102(b) as allegedly anticipated by Akram et al. (US 5,838,161).

Independent claim 1 (as amended) recites:

1. A test structure, comprising:
 - a first member having: a roughly rectangular shape; a first width dimension; and a first length dimension that is greater than the first width dimension; and a second member having: a roughly rectangular shape; a second width dimension; and a second length dimension that is greater than the second width dimension; the second member being combined with the first member to form a roughly symmetrical cross-shaped test structure; and
 - a first and second metal lines each having opposing ends; the first and second metal lines being joined at two of their respective opposing ends to form an intersection; and a via extending from the first and second metal line intersection to the approximate center of the cross-shaped test structure.*

(Emphasis Added). Claim 1 patently defines over the cited art for at least the reason that the cited art fails to disclose the features emphasized above.

As emphasized above, the test structure in amended claim 1 comprises a first and second metal lines each having opposing ends; the first and second metal lines being joined at two of their respective opposing ends to form an intersection; and a via extending from the first and second metal line intersection to the approximate center of the cross-shaped test structure.

In contrast, and referring to FIG 9, and Col. 6, lines 37-46, Akram teaches:

Referring to FIG 9, the van der Pauw structure 76 is shown. In general, van der Pauw structures are geometrical patterns having four contacts used to characterize the resistivity of a layer. *Van der Pauw structure 76 is a layer of material 106 formed as a Greek cross with four contacts 108A-D.* Using a conventional four-point probe, voltage measurements can be made for different current directions across the contacts 108A-D. The sheet resistance is given by the formula $\rho_s = 4.532 R$.

Akram teaches that the Van der Pauw structure 76 is a layer of material 106 formed as a Greek cross with four contacts 108A-D. Akram, however, does not disclose or suggest the defining features that have

been added to claim 1 by amendment. Specifically, Akram does not disclose the features of “a first and second metal lines each having opposing ends; the first and second metal lines being joined at two of their respective opposing ends to form an intersection; and a via extending from the first and second metal line intersection to the approximate center of the cross-shaped test structure,” as set forth in amended claim 1.

As set forth in MPEP 2131:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). >”When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” Brown v. 3M, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) (claim to a system for setting a computer clock to an offset time to address the Year 2000 (Y2K) problem, applicable to records with year date data in “at least one of two-digit, three-digit, or four-digit” representations, was held anticipated by a system that offsets year dates in only two-digit formats). See also MPEP § 2131.02.< *“The identical invention must be shown in as complete detail as is contained in the... claim.”* Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

It is clear that not every claimed feature, as set forth in the amended claim 1, is found in Akram. Consequently, Applicant respectfully submits that the cited reference fails to disclose the aforementioned features (which are now expressly recited in claim 1). For at least this reason, reconsideration of this rejection is hereby respectfully requested.

For at least the foregoing reasons, claim 1 (as amended) patently defines over the cited references. Insofar as claims 2-3, 6, and 14 depend from amended claim 1, these claims are also allowable at least by virtue of their dependency.

Independent claim 15 (as amended) recites:

15. A test structure, having:

a first rectangular member having a first width dimension; and a first length dimension that is about twice as great as the first width dimension; and a second rectangular member having a second width dimension and a second length dimension that is about twice as great as the second width dimension; combined with the first rectangular member to form a symmetrical cross-shaped test structure; and

a first and second metal lines each having opposing ends; the first and second metal lines being joined at two of their respective opposing ends to form an intersection; and a via extending from the first and second metal line intersection to the approximate center of the cross-shaped test structure.

(Emphasis Added)

As emphasized above, claim 15 has been amended to define a first and second metal lines each having opposing ends; the first and second metal lines being joined at two of their respective opposing ends to form an intersection; and a via extending from the first and second metal line intersection to the approximate center of the cross-shaped test structure.

For reasons similar to those set forth in connection with claim 1, the amended language of claim 15 likewise defines over the cited art, and therefore the rejection of claim 15 should be withdrawn. Insofar as claims 17-18, 20-21 and 25-26 depend from amended claim 15, these claims are also allowable at least by virtue of their dependency.

Rejections Under 35 U.S.C. 103(a)

Claims 4-5, 7-8, 12-13, 17-18, 20-21, and 25-26 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Akram as applied to claims 1 and 15 above.

Claim 1 and 15 are independent claims, on which claims 4-5, 7-8 and 12-13, and claims 17-18, 20-21 and 25-26 respectively depend. Applicant asserts that amended claims 1 and 15 are patentable for the

reasons discussed, and therefore for at least the same reasons, claims 4-5, 7-8, 12-13, 17-18, 20-21 and 25-26 are patentable.

Newly added claims

Applicant adds new claims 38-45, of which claims 38 and 40 are independent claims.

New, independent claim 38 recites:

38. A test structure, comprising:
a first member having a first roughly rectangular shape, wherein the roughly rectangular shape of the first member has a first width dimension, and a first length dimension that is greater than the first width dimension;
a second member having a roughly rectangular shape, wherein the roughly rectangular shape of the second member has a second width dimension and a second length dimension that is greater than the second width dimension,
wherein the second member is combined with the first member to form a roughly symmetrical cross-shaped test structure, and ***the test structure is used for testing stress-induced voiding.***

(Emphasis Added) As emphasized above, claim 38 comprises a test structure used for testing stress-induced voiding. Applicant submits that Akram fails to teach or suggest a test structure for testing stress-induced voiding. For at least this reason, new claim 38 is patentable over Akram.

New, independent claim 40 recites:

40. A test structure, comprising:
a first member having a first roughly rectangular shape, wherein the roughly rectangular shape of the first member has a first side with a first width dimension W1, and a second side with a first length dimension L1 that is greater than the first width dimension W1; and
a second member having a roughly rectangular shape, wherein the roughly rectangular shape of the second member has a third side with second width dimension W2 and a fourth side with a second length dimension L2 that is greater than the second width dimension, wherein the second member is combined with the

first member to form a roughly symmetrical cross-shaped test structure, *wherein $W1$ or $W2$ is larger than $(L2-W1)/2$ or $(L1-W2)/2$.*

(Emphasis Added) As emphasized above, claim 40 comprises the roughly rectangular shape of the first member has a first side with a first width dimension $W1$, and a second side with a first length dimension $L1$ that is greater than the first width dimension $W1$, the roughly rectangular shape of the second member has a third side with second width dimension $W2$ and a fourth side with a second length dimension $L2$, and $W1$ or $W2$ is larger than $(L2-W1)/2$ or $(L1-W2)/2$.

Applicant submits that Akram fails to teach or suggest “the roughly rectangular shape of the first member has a first side with a first width dimension $W1$, and a second side with a first length dimension that is greater than the first width dimension $L1$, the roughly rectangular shape of the second member has a third side with second width dimension $W2$ and a fourth side with a second length dimension $L2$, and $W1$ or $W2$ is larger than $(L2-W1)/2$ or $(L1-W2)/2$ ”, therefore new claim 40 is patentable over Akram.

Cited Art

The cited art made of record has been considered but is not believed to impact the patentability of the pending claims.


CONCLUSION

It is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

A credit card authorization has been provided to cover the fee associated with the additional claims. No additional fee is believed to be due in connection with this response to

restriction requirement. If, however, any additional fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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